

METHYLENE CHLORIDE

Also known as: Dichloromethane, Methane dichloride, Methylene dichloride
Chemical reference number (CAS): 75-09-2

WHAT IS METHYLENE CHLORIDE?

Methylene chloride is a clear, non-flammable liquid with a sweet, pleasant odor. It's primarily used as paint remover, industrial solvent, and grain fumigant.

In the home, methylene chloride may be an ingredient in paint removers and in fire extinguishers. You may find methylene chloride (or one of the other names listed above) in the ingredient label of these products.

Methylene chloride will not remain in the food chain; sunlight will break down the compound when released into the air. If methylene chloride is placed in a landfill or discharged to soil, it can seep into groundwater and contaminate nearby wells.

HOW ARE PEOPLE EXPOSED TO METHYLENE CHLORIDE?

Breathing: Most cases of human exposure to methylene chloride occur when people breathe vapors from paint strippers. *Work only in well-ventilated areas if working with methylene chloride.* When household water becomes contaminated, people can inhale vapors while showering, laundering, and cooking.

When methylene chloride is used near an open flame, poisonous "phosgene" gas can be created. Phosgene can cause permanent lung damage at low levels.

Drinking/Eating: People can be exposed when they drink contaminated water or when they use it for preparing food.

Touching: Methylene chloride can be absorbed through the skin, but this is a minor route of exposure.

DO STANDARDS EXIST FOR REGULATING METHYLENE CHLORIDE?

Water: The drinking water standards for methylene chloride is set at 5 parts per billion (ppb). We suggest you stop drinking water containing more than 5 ppb of methylene chloride. If levels of methylene chloride are high in your water (above 500 ppb), you may need to avoid washing, bathing, or using the water for other purposes. Contact your local public health agency for more information specific to your situation.

Air: No standards exist for the amount of methylene chloride allowed in the air of homes. We use a formula to convert workplace limits to suggested home limits. Based on the formula, we recommend levels of methylene chloride in air be no higher than 0.5 part per million (ppm). Most people can't smell methylene chloride until the level reaches 300 ppm. If you can smell the chemical, the level is too high to be safe.

The Wisconsin Department of Natural Resources regulates the amount of methylene chloride that can be released by industries.

WILL EXPOSURE TO METHYLENE CHLORIDE RESULT IN HARMFUL HEALTH EFFECTS?

The following symptoms may occur immediately or shortly after exposure to levels of methylene chloride at or above 300 ppm in air:

- Increased levels of carbon monoxide in the blood which may cause fatigue, shortness of breath or chest pain;
- Drowsiness, headache, a feeling of being "drunk," and
- Eye, skin and lung irritation.

These symptoms will disappear shortly after exposure stops.

The following health effects can happen after several years of exposure to methylene chloride:

Cancer: Laboratory animals have developed cancer after long-term exposures to methylene chloride. The U.S. Environmental Protection Agency considers methylene chloride to be a "probable" human carcinogen.

Reproductive Effects: Animal studies have shown no damage to reproductive systems or developing unborn babies.

Organ Systems: Since methylene chloride changes to carbon monoxide in the body, it can damage the heart and nervous system.

In general, chemicals affect the same organ systems in all people who are exposed. However, the seriousness of the effects may vary from person to person. A person's reaction depends on several things, including individual health, heredity, previous exposure to chemicals including medicines, and personal habits such as smoking or drinking.

It is also important to consider the length of exposure to the chemical; the amount of chemical exposure; and whether the chemical was inhaled, touched, or eaten.

CAN A MEDICAL TEST DETERMINE EXPOSURE TO METHYLENE CHLORIDE?

Exposure to high levels of methylene chloride will temporarily increase carbon monoxide (carboxyhemoglobin) in the blood and may affect liver function. Levels of carboxyhemoglobin are usually higher in people who smoke. Methylene chloride can be measured in urine or exhaled breath shortly after exposure. Although the tests can be used to confirm exposure, they may not predict future health problems.

Seek medical advice if you have any symptoms that you think may be related to chemical exposure.

This fact sheet summarizes information about this chemical and is not a complete listing of all possible effects. It does not refer to work exposure or emergency situations.

FOR MORE INFORMATION

- Poison Control Center, 800-815-8855
- Your local public health agency
- Division of Public Health, BEH, 1 West Wilson Street, Rm. 150, Madison, WI 53701-2659, (608) 266-1120 or Internet: <http://www.dhfs.state.wi.us/eh>



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